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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/558,008	04/24/2000	Hannu Honkala	930.36US01	7672

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EXAMINER

D AGOSTA, STEPHEN M

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 03/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/558,008

Applicant(s)

HONKALA ET AL.

Examiner

Stephen M. D'Agosta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-21 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

1. The examiner, after further review, has objected to claim 14 which provides for a very specific design not found in the prior art cited.
2. The examiner further notes, in his opinion, that the following claims would also be allowed as a combination:

- a. **Claims 8, 9 and 10** incorporated into independent claim 1 and/or 20.
- b. **Claims 15 and 16** incorporated into independent claim 1 and/or 20
- c. **Claims 19 and 17** incorporated into independent claim 1 and/or 20
- d. **Claims 19 and 18** incorporated into independent claim 1 and/or 20

These above combinations would further limit claim 1 or 20 so as not to read on the prior art cited and hence provide multiple embodiments of the applicant's invention.

3. The new rejection (which parallels the previous rejection transmitted) is included below.

Information Disclosure Statement

The information disclosure statement filed 4-24-00 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the examiner has not been able to find the IDS. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609

¶ C(1).

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 7-13 and 15-21 rejected under 35 U.S.C. 103(a) as being unpatentable over Rautiola et al. U.S. Patent 5,949,775 in view of Quon GB2315190 (hereafter referred to as Rautiola and Quon).

As per **claims 1 and 20**, Rautiola teaches a gateway arrangement (figure 2, #1) for receiving traffic comprising a first type of traffic and a second type of traffic (ie. signaling/payload or computer or printer, etc. as shown in figure 2) **but is silent on the gateway arrangement comprising:**

- a first gateway and second gateway
- the first gateway being arranged to separate the first and second types traffic,
- the first type of traffic being output to said second gateway,
- the second gateway being arranged to extract information from said first type of traffic and output said information to the first gateway, and
- the first gateway having an output interface which is arranged to transmit the second type of traffic dependent upon the extracted information.

Rautiola teaches that multiple data types are present on the LAN (voice, computer application, printer, etc. – see figure 2) and can be transmitted to the mobile system/other MSC or PSTN/ISDN (figure 2) via the gateway (C5, L51-67 to C6, L1-67 to C7, L1-32). Since ONE gateway translates the LAN data format/coding into wireless data format/coding INTERNALLY (eg. within the computer), one skilled in the art would be able to separate those software routines and host them on different servers (eg. gateways) in order to distribute the processing load and/or distribute the two computers so they are not co-located which can be a single point of failure. Note that Rautiola teaches multiple gateways in figure 3 (#1, #17 and #13). The examiner notes that one gateway could be used instead of multiple gateways – extraction, translation and reassembly software would be required on the one gateway with multiple interfaces to the various different systems and/or multiple gateways would be required.

The examiner also points out that the use of a gateway along with a gatekeeper is well known in the art as well. The gatekeeper can be interpreted as a “second” gateway since it provides similar functions as that of the applicant’s second gateway (eg. data extraction/translation and control functions).

As a second known teaching, multiplexers are used to transport multiple data streams as one data stream whereby a second multiplexer demultiplexes the data into it’s component parts. Individual channels/streams can then have payload data (and/or

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routing information) extracted whereby it can be remultiplexed into another data stream for retransmission.

Wynn Quon (GB-2315190A) teaches an Internet Telephony Gateway (ITG) that enable establishment of phone calls between a packet switched network carrying data packets and a circuit switched network carrying telephone signals that comprises a first and second interface unit (eg. gateway) [abstract]. The examiner interprets this to read on the applicant's gateway device since it uses multiple interface units/gateways and requires the extraction/reassembly of differing types of data types (ie. computer user can transmit data and voice over a packet link which would require extraction of voice and translation to circuit-switched link to phone user. The computer data would be extracted and sent to another computer via a different packet link. Reference figures 6 and 7 which show two interface units/gateways that connect to TCP/IP and telephone networks, hence extraction, translation and reassembly are required).

It would have been obvious to one skilled in the art at the time of the invention to modify Rautiola, such that there are two gateways and that data is extracted and inserted into the second data stream, to provide a multi-gateway system that distributes the processing load and/or alleviates a single point of failure.

As per **claim 2**, Rautiola teaches an arrangement as claimed in claim 1, **but is silent on** wherein the first and second gateways are connected to a connector and the first type of traffic is sent between said first and second gateways via said connector.

Having separated the software routines and placed them on separate computers, one skilled in the art would realize that said computers still require communications between themselves. The gateways would require a data link connection of some sort (eg. first and second gateways are connected to a connector and the first type of traffic is sent between said first and second gateways via said connector).

It would have been obvious to one skilled in the art at the time of the invention to modify Rautiola, such that there is a connection between the two computers, to provide data transmission between two/multiple gateways.

As per **claim 3**, Rautiola teaches an arrangement as claimed in claim 2, **but is silent on** wherein said connector is provided by a local area network.

Rautiola teaches a gateway (figure 2, #1) which has a LAN interface. Hence, one skilled in the art would use a LAN interface to provide high speed communications when multiple gateways were used.

It would have been obvious to one skilled in the art at the time of the invention to modify Rautiola, such that a LAN connection is used, to provide high speed, industry standard communications.

As per **claim 4**, Rautiola teaches an arrangement as claimed in claim 1, **but is silent on** wherein the first and second gateways are connected directly to each other.

Rautiola shows depicts the LAN as Ethernet in figure 2 (eg. bus configuration). One skilled in the art realizes that there is contention on an Ethernet LAN which can cause delays/congestion during communication. Hence, one skilled in the art would use

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a direct connection between the two computers if the LAN was not providing ample throughput.

It would have been obvious to one skilled in the art at the time of the invention to modify Rautiola, such that the two gateways are directly connected, to provide an alternate data path that is not common/shared with other users' data.

As per **claim 5**, Rautiola teaches an arrangement as claimed in claim 1, wherein said first gateway is arranged to be connected to a mobile telecommunications network (figure 2, gateway #1 connects to a mobile system in upper left hand corner of the figure).

As per **claim 7**, Rautiola teaches an arrangement as claimed in claim 1, wherein said first gateway is arranged to be connected to a wired telecommunications network (figure 2, gateway #1 connects to LAN network in bottom of figure).

As per **claim 8**, Rautiola teaches an arrangement as claimed in claim 1, wherein each interface to the gateway is a bi-directional interface as provided by the LAN and/or other telecommunication links (figure 2). (eg. said output interface is also an input interface which arranged to receive first and second types of traffic signals).

As per **claim 9**, Rautiola teaches an arrangement as claimed in claim 1, wherein the gateway equipment transfers information between a LAN and a cellular radio network (C14, L19-26) supports signaling traffic as well (C5, L55-63, gateway is similar to a BSC which supports signaling traffic) (eg. interacts with the said first type of traffic is signaling traffic).

As per **claim 10**, Rautiola teaches an arrangement as claimed in claim 1, wherein said second type of traffic is user data which includes voice, different applications (database, email, etc.), fax, etc.. (C1, L42-63) [payload traffic].

As per **claim 11**, Rautiola teaches an arrangement as claimed in claim 1, **but is silent on** wherein said first and second gateways are connected via a wired connection.

One skilled in the art realizes that the two/multiple gateways would require interconnection and such would either use a wired or wireless connection as required by the design constraints (note that the gateway of figure 2 supports wired connections via the LAN).

As per **claim 12**, Rautiola teaches an arrangement as claimed in claim 1, **but is silent on** wherein said first and second gateways are connected via a wireless connection.

One skilled in the art realizes that the two/multiple gateways would require interconnection and such would either use a wired or wireless connection as required by the design constraints (note that the gateway of figure 2 supports wireless connections

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[eg. cell, cordless, IR] -- wired LAN connections could be replaced with wireless LAN connections throughout (C13, L54-55)).

As per **claim 13**, Rautiola teaches an arrangement as claim in claim 1, **but is silent on** wherein a plurality of first gateways are provided for the second gateway.

Wynn Quon (GB-2315190A) teaches an Internet Telephony Gateway (ITG) that enable establishment of phone calls between a packet switched network carrying data packets and a circuit switched network carrying telephone signals that comprises **a first and second interface unit** (eg. gateway) [abstract]. The examiner interprets this to read on the applicant's gateway device since it uses multiple interface units/gateways and requires the extraction/reassembly of differing types of data types (ie. computer user can transmit data and voice over a packet link which would require extraction of voice and translation to circuit-switched link to phone user. The computer data would be extracted and sent to another computer via a different packet link. The computer data would be extracted and sent to another computer via a different packet link. Reference figures 6 and 7 which show two interface units/gateways that connect to TCP/IP and telephone networks, hence extraction, translation and reassembly are required).

The examiner puts forth that Rautiola teaches at least one gateway and Quon teaches multiple interface units/gateways, hence one skilled in the art would adapt Rautiola to have a plurality of first gateways for the second gateway.

It would have been obvious to one skilled in the art at the time of the invention to modify Rautiola, such that there are a plurality of first gateways provided for the second gateway, to ensure that performance objectives are met with multiple front-end gateway processors.

As per **claim 15**, Rautiola teaches an arrangement as claimed in claim 1, **but is silent on** wherein said first gateway is arranged to alter the coding of said second type of traffic.

Rautiola teaches that the gateway provides protocol conversion of the data (C5, L51-67 to C6, L1-9, primarily C6, L1-3). One skilled in the art also realizes the gateway (figure 2, #1) is connected to two dissimilar networks (ie. cellular/MSC and LAN) which use different coding techniques. Hence one skilled in the art knows that the gateway provides coding conversion as well in order for the two dissimilar networks to communicate.

As per **claim 16**, Rautiola teaches an arrangement as claimed in claim 1, wherein the gateway is arranged to alter the protocol of said first type of traffic (C5, L51-67 to C6, L1-9, primarily C6, L1-3) **but is silent on** wherein said second gateway.

As per claim 1 above, one skilled in the art would separate one gateway into two gateways for distributed processing and/or to alleviate any single point of failures.

As per **claim 17**, Rautiola teaches an arrangement as claimed in claim 1 and the use of many different types of communication links/systems (C5, L64-66 or C13, L64-67), each of which could be used to provide transmission of data. [eg. wherein said

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output interface is in accordance with the ETSI E1 standard]. Note that one skilled in the art would also use fractional T1, T1, T3 and/or other high rate industry standard communication links as well.

As per **claim 18**, Rautiola teaches an arrangement as claimed in claim 1, wherein said gateway arrangement is provided between a GSM environment (C5, L10-24) and an IP environment (C6, L10-19).

As per **claim 19**, Rautiola teaches an arrangement as claim in claim 1, **but is silent on** wherein said extracted information is at least one of time slot and address information.

Rautiola teaches the gateway providing data translation so that a LAN can connect to a mobile/GSM cellular network. Rautiola teaches a TCP/IP network (C6, L10-19) which would require the IP Address to be extracted so that user A can contact user B (eg. an IP address is unique and must be used for routing).

Rautiola also teaches TDMA (C6, L36-38) which utilizes time slots for data transmission (eg. one needs to understand which timeslot is being used).

It would have been obvious to one skilled in the art at the time of the invention to modify Rautiola, wherein said extracted information is at least one of time slot and address information, to provide communication between users of two different communication systems to interact.

As per **claim 21**, Rautiola teaches an arrangement as claim in claim 1, **but is silent on** wherein the gateway arrangement further comprises a plurality of second gateways.

Wynn Quon (GB-2315190A) teaches an Internet Telephony Gateway (ITG) that enable establishment of phone calls between a packet switched network carrying data packets and a circuit switched network carrying telephone signals that comprises a first and second interface unit (eg. gateway) [abstract]. The examiner interprets this to read on the applicant's gateway device since it uses multiple interface units/gateways and requires the extraction/reassembly of differing types of data types (ie. computer user can transmit data and voice over a packet link which would require extraction of voice and translation to circuit-switched link to phone user. The computer data would be extracted and sent to another computer via a different packet link. Reference figures 6 and 7 which show two interface units/gateways that connect to TCP/IP and telephone networks, hence extraction, translation and reassembly are required).

The examiner puts forth that Rautiola teaches at least one gateway and Quon teaches multiple interface units/gateways, hence one skilled in the art would adapt Rautiola to have a plurality of second gateways.

It would have been obvious to one skilled in the art at the time of the invention to modify Rautiola, such that there are a plurality of second gateways, to ensure that performance objectives are met with multiple back-end gateway processors.

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Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Rautiola in view of Quon as applied to claim 5 above, and further in view of Rautiola et al. U.S. Patent 5,956,331 (hereafter referred to as Rautiola #2).

As per claim 6, Rautiola in view of Quon teaches an arrangement as claimed in claim 5, but is silent on wherein first gateway has a second interface for connecting to said mobile telecommunications network.

Rautiola #2 teaches an integrated radio communication system (title) that utilizes a gateway with multiple connections (ie. to an MSC, PSTN/ISDN, Internet and wireless LAN). One skilled in the art would provide multiple connections to any of these systems if performance was degraded based upon user traffic and/or control signaling traffic.

It would have been obvious to one skilled in the art at the time of the invention to modify the combination of Rautiola and Quon, wherein the gateway has a second (or multiple) connection(s) to a mobile network, to provide additional throughput if there was performance degradation based upon increased user/control traffic.

Allowable Subject Matter

Claim 14 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 14 (which depends from claim 13) would provide a highly specific design (*eg. exactly eight first gateways used for the second gateway*) that would not read on the prior art cited in the examiner's opinion.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 703-306-5426. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SMD

3-11-04

A handwritten signature, possibly reading "SMD", is written in black ink below the date.